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United States  
Department of  
Agriculture

**Forest Service**

Alaska Region

Tongass  
National Forest  
Stikine Area

R10-MB-293C

January 1996



# Shamrock Timber Sale(s)

## Final Environmental Impact Statement

### Record of Decision

### Stikine Area

USDA  
FPMR  
PART 101  
101.11A  
0-10  
101.11A  
0-10







United States  
Department  
of Agriculture

Forest  
Service

Region 10  
Tongass National Forest

Stikine Area  
P.O. Box 309  
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(907-772-3841)

File Code: 1950/2430

Date: January 21, 1996


Dear Reviewer:

I have enclosed a copy of the Record of Decision and the Final Environmental Impact Statement for the Shamrock Timber Sale(s), Stikine Area, Tongass National Forest. The Record of Decision explains my decision to select Alternative 5 with modifications, which includes the harvest of 38 million board feet of timber from 1,894 acres and the construction of 33.8 miles of specified road.

The appeal period will begin the day after the notice of the decision is published in the Petersburg Pilot, the official newspaper of record for decisions made by the Stikine Area Forest Supervisor. The appeal period will last for 45 days. I expect the deadline to fall on March 25, 1996. Implementation of the decision will begin no sooner than 5 working days after the close of the appeal period.

As the Stikine Area Forest Supervisor, I am responsible for this decision. Please direct any correspondence or requests for additional copies to Jim Thompson, IDT Leader, PO Box 1328, Petersburg AK 99833, or call (907)772-3871.

Sincerely,

  
ABIGAIL R. KIMBELL  
Forest Supervisor

Enclosure





**Shamrock Timber Sale(s)**

**Final Environmental Impact Statement**

**RECORD OF DECISION**

Abigail R. Kimbell  
Forest Supervisor

Tongass National Forest, Stikine Area  
USDA Forest Service





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# Shamrock Timber Sale(s) Record of Decision

## Introduction

This Record of Decision documents my decision to select an alternative from the Shamrock Timber Sale(s) Final Environmental Impact Statement (Final EIS) project area on Kupreanof Island. The selection includes the specific harvest unit locations, requirements for harvesting timber and constructing associated roads, and log transfer facilities to be used.

## Background

The proposed project is a component of the overall timber sale program on the Tongass National Forest. Timber sales are allowed by the Forest Plan in order to maintain a supply of timber from National Forest lands for Southeast Alaska. The timber would be sold in one or more timber sales.

The purpose of this project is to implement the Tongass Land Management Plan (TLMP or Forest Plan), by making between 22 to 55 million board feet (MMBF) of timber available for harvest as part of the Stikine Area timber sale program. The need for this project is to supply timber volume from the Tongass National Forest to industry in an environmentally sensitive manner consistent with current Forest Plan land use designations. The transportation development associated with the harvest of this timber will provide the long-term transportation needs for National Forest administration, motorized recreation, firewood gathering, and access to the area by local residents.

Section 101 of the Tongass Timber Reform Act (TTRA) directs the Forest Service, "to the extent consistent with providing for multiple use and sustained yield of all renewable forest resources, seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber and (2) meets the market demand from such forest for each planning cycle." Section 101 specifies that Forest Service efforts to seek to meet market demand are subject to appropriations, National Forest Management Act (NFMA) requirements, and other applicable laws. Providing a timber supply from the Tongass for sustained local wood products industry employment, and related economic and social benefits is an objective of the Forest Plan and the Alaska National Interest Lands Conservation Act (ANILCA), as amended by TTRA.

This project is one part of a timber management program designed to implement the Forest Plan and meet TTRA direction. Recent timber market assessments (Morse, K. 1994 and 1995) confirm that there is underutilized mill capacity in the region and a strong market for wood products. Under current market conditions, there is good potential for timber sales from the project area to be profitable to operators. Under these circumstances, and given the limited supply of timber

from other sources, there is a market demand for timber from the project area and all sales offered are expected to be purchased.

Public scoping, data collection and analysis, and documentation production began with issuance of the Notice of Intent published in the Federal Register on December 23, 1991. This Record of Decision (ROD) and Final EIS of the Shamrock Timber Sale(s) disclose the environmental effects of the alternatives considered and document the decision for authorization of activities within the project area.

A Draft Environmental Impact Statement (Draft EIS) for this project was distributed in July of 1993 and the comment period continued until November of 1993. We published a Supplemental Draft EIS due to modifications of the Draft EIS to allow public review and comment on these changes. This Supplemental Draft EIS was published in December of 1994 with the comment period extending through January of 1995. Specific modifications discussed in the Supplemental Draft EIS include:

- Incorporation of a road segment and one unit from the North Irish Creek Timber Sale Re-offer
- Minor changes in the proposed Shamrock road system
- Designation of wildlife habitat retention areas in the Shamrock area
- Effects on the Alaska Regional Sensitive Species from the list released by the Regional Forester in January of 1994, and
- Changes in the ANILCA 810 subsistence findings for deer.

## Decision

This Record of Decision documents my decision to make timber volume available from the Shamrock project area on Kupreanof Island to meet the Stikine Area's timber sale program goals. My decision encompasses the following:

- the volume to make available for sale in this project area;
- the location and design of timber harvest units and of road systems;
- wildlife habitat maintained through the life of the project;
- necessary standards and guidelines, mitigation measures, and enhancement opportunities for resources other than timber; and
- whether there may be a significant restriction on subsistence use and if so, related findings and measures to minimize impacts on subsistence users.

I have eliminated Alternative 2 from consideration for selection. This alternative is the only alternative which would not maintain the Castle River's candidate river eligibility for "Wild" classification (units were proposed within the corridor of Castle River). The Forest Plan determines which eligible rivers to recommend for inclusion in the Wild and Scenic River System. The TLMP Revision has not been completed, and a decision has not been made on the Wild and Scenic recommendations.

It is my decision to select Alternative 5 with modifications for implementation in the Shamrock Project area. This decision is responsive to issues raised during scoping, data gathering, public responses to the Draft EIS and Supplemental Draft EIS, and testimony received at the subsistence hearings.



I modify Alternative 5 by deleting settings four, five, six, and seven from unit #28 (Appendix A, Final EIS). These settings, located in the northern one-third of the unit, will not be harvested. This modification will help mitigate scenic, wildlife, and wetland concerns associated with this unit by reducing the overall size from 177 acres to 123 acres. This modification will result in a decrease of 0.5 miles of temporary road, 54 acres, and approximately one million board feet from Alternative 5. (See the attached Unit #28 Unit Description with the proposed modifications.) The modified alternative is referred to as the Selected Alternative.

This Selected Alternative allows harvest of 38 million board feet of timber on 1,894 acres from the project area. An estimated 33.8 miles of specified road would be constructed. Design features of the harvest units and roads are described in detail on the Unit and Road Descriptions Cards in Appendices A and B, respectively, of the Final EIS and the attached Unit #28 map.

### **Road and Unit Cards**

Appendix A of the Final EIS contains the Planned Unit Descriptions (unit cards), Appendix B the Planned Road Descriptions (road cards), and Appendix D the Road Management Objectives (road cards). These cards are an integral part of this decision because they document the specific resource concerns, management objectives, and mitigation measures to aid in layout of the harvest units and in the design and construction of roads. These cards will be used during the implementation process to assure that all aspects of the project are implemented within applicable standards and guidelines and that resource impacts will not be greater than those described in the EIS. Similar cards will be used to document both the actual layout of the units prior to harvest and the harvest of the units as it actually occurs on the ground. In addition, the road cards will be used to define future road maintenance levels and planned uses.

### **Wildlife Habitat Maintained Through the Life of the Project**

Large areas of operable commercial forest land will be retained in an old-growth condition for the life of the project in every alternative. These areas include wildlife habitat along streams, along beach and estuary fringes, and in large blocks of old-growth forest. The streamside buffers required by the Tongass Timber Reform Act (TTRA) are permanent designations. The areas that will be maintained in an old-growth state for the life of the project are displayed on Figure 4-3 of the Final EIS and the Record of Decision Map. The acreage that is maintained exceeds the percentages specified for retention in the Tongass Land Management Plan for all Value Comparison Units (VCUs) within the project area.

## **Subsistence**

I have determined that there may be a significant possibility of a significant restriction of subsistence use of deer in the project area for the communities of Kake, Petersburg/Kupreanof, and Wrangell. However, (a) such restriction is necessary, consistent with sound management of public lands; (b) the amount of public land involved to implement the Selected Alternative is (considering sound multiple-use management of public lands) the minimum necessary; and (c) reasonable measures to minimize impacts on subsistence have been adopted to the maximum extent practicable while still meeting the purpose and need for this project.

## **Reasons for the Decision**

In making my decision, I considered all issues and took into account the competing interests and values of the public. There were many divergent public, personal, and professional opinions expressed during this analysis. This decision will probably not completely satisfy any one particular group or individual. However, I have considered all views and feel the decision I have made is reasonable. The Selected Alternative provides a beneficial mix of resources for the public within the framework of the existing laws, regulations, policies, public needs and desires, and capabilities of the land, while meeting the stated purpose and need for this project.

My decision to implement this Selected Alternative is in conformance with the Tongass Land Management Plan (TLMP), as amended, and sound National Forest management. In making my decision, I have balanced the need to seek to meet market demand for timber, the need to help maintain a current timber supply in support of community stability, the need for a forest transportation network, with the need to provide strong protection measures for soil, water, fish, wildlife, subsistence, visual resources, and candidates to the National Wild and Scenic River System.

## Issues

In making my decision, I considered 15 major issues identified during the planning process. In the following summary, I disclose how the Selected Alternative addresses each of these significant issues.

### Issue 1: Transportation

**What effect will road construction and subsequent road maintenance following harvest have on access to and within the harvest area?**

#### **Response:**

The Selected Alternative constructs approximately 34 miles of specified road and approximately 4.3 miles of spur road. Of the 34 miles of specified road construction, approximately 16 miles would remain open to the public. The remaining 18 miles are planned to be closed by means of water bars, "tank traps", or by allowing alder to eventually close the road. See Appendix D (Road Management Objectives) of the Final EIS for specific road prescriptions.

Of the action alternatives, Alternative 4 has the most miles of total road construction (combining specified and spur road) with 40 miles, the Selected Alternative with 39 miles and Alternative 3 with 28 miles. The existing log transfer facility (LTF) at Little Hamilton Bay will be used to transfer logs to saltwater.

Following timber harvest, approximately 17 miles of mainline roads will remain open for public access in Alternative 4; The Selected Alternative will maintain 16 miles, with Alternative 3 having 10 miles kept open. Spur roads are temporary roads not intended to be part of the Forest Development transportation system and will be closed after use in all alternatives.

The Selected Alternative strikes a balance between miles of road constructed, roads to remain open versus closed, and access to and through the study area.

### Issue 2: Vegetation

**How will long-term forest health and productivity be affected by harvesting and the specific harvest treatments in the Shamrock area?**

#### ***Productivity and Health:***

#### **Response:**

Timber harvest will convert unmanaged, overmature stands to even-aged stands which are more productive for wood fiber. The Selected Alternative will harvest the most acres (1894) followed by Alternative 4 (1766 acres), Alternative 3 (1176 acres). The resulting even-aged stands will be more uniform in structure, and be relatively disease-free, with less wood decay and defect than the old-growth stands. The spruce component is expected to increase. The specific harvest treatment for each unit is shown on the Unit Descriptions. In addition, all units will have residual trees left to contribute to future stand structure along setting boundaries and roads, wherever it is compatible with safety, logging feasibility, and forest health.



The Selected Alternative harvests 1.9 percent of the land area within the study area, and 4.3 percent of the commercial forest land, which leaves 98 percent of the land area in a natural state.

Mass wasting is not expected to occur as a result of timber harvest. Activities on areas of extreme hazard soils were avoided in the analysis and the application of Best Management Practices (BMP's) and mitigation measures is expected to reduce the potential for mass wasting on areas with high hazard soils.

Long-term forest health and wood fiber productivity will improve with all the action alternatives. The Selected Alternative is expected to improve forest health and productivity. It strikes a balance between supplying wood fiber for industry and protection of resources.

***Threatened, Endangered, and Sensitive (TES) Plants:***

**Will harvesting and road construction result in adverse impact to any populations of TES plants?**

**Response:**

No threatened or endangered species listed by the U.S. Fish and Wildlife Service are known to occur within the study area. No plants from the R10 Sensitive Species list have been identified in this area. No impacts to TES species are anticipated to occur with any of the alternatives, including the Selected Alternative.

***Wetlands:***

**What are the expected losses of wetland area and functional value under each alternative?**

**Response:**

Only a small amount of wetland acreage is affected by units and roads proposed in the alternatives. The Selected Alternative harvests the most forested wetland acreage (204 acres) followed closely by Alternative 4 (203 acres) and Alternative 3 (140 acres). These action alternatives harvest less than 0.5 percent of the total acres of wetland in the Shamrock Area. No permanent loss of wetlands is expected from timber harvest. Wetland impacts of increased erosion, sedimentation loading, and floodflow are expected to be minimal. The effect of timber harvest on these forested wetland acres is expected to be short-term and limited in nature due to the rapid regeneration of wetland vegetation and the small amount of forested wetland affected.



Road construction will have a long term impact on wetlands and their function. Alternative 4 road construction alters the most wetland acres (31.5) followed by the Selected Alternative (27.2 acres), and Alternative 3 (21.7 acres). These action alternatives alter less than 0.1 percent of the total acres of wetland in the Shamrock Area. Wetland function may be altered somewhat due to increased erosion, sediment loading, and floodflow from roading activities but these impacts are expected to be limited due to the small amount of wetlands affected. The effects are not expected to extend beyond the road's right-of-way. In addition, the mitigation measures of proper road design, erosion control, and avoiding floodplains wherever possible will minimize the effects to wetlands.

The Selected Alternative will temporarily affect 204 acres of wetlands within the harvest units. Road construction will permanently affect 27.2 acres out of the 45,677 acres of wetlands in the Shamrock area.

### Issue 3: Wildlife

**What effects will timber harvest and related activities have on wildlife habitat?**

**Response:**

***Management Indicator Species (MIS)***

All action alternatives would harvest some acres of valuable wildlife habitat. The acres of valuable wildlife habitat for MIS harvested are as follows:

- "good" black bear habitat harvested ranges from 1,019 acres (2.3%) in Alternative 3 to 1790 acres (4.1%) in the Selected Alternative.
- "good" marten habitat harvested ranges from 343 acres (2.6%) in Alternative 3 to 707 acres (5.5%) in the Selected Alternative.
- "average" deer habitat harvested ranges from 179 acres (2.0%) in Alternative 3 to approximately 426 acres (4.8%) in Alternative 4 and the Selected Alternative.

The effects to MIS are displayed in Tables 4-10 through 4-15 in the Final EIS. The effects throughout all alternatives for eagle and otter are not detectable. The effects to potential bear populations are slight after canopy closure, with the greatest effect in Alternative 4. Potential numbers of deer in the project area will drop from the present habitat capability. The greatest effects would occur with the Selected Alternative and Alternative 4, and the least effect of the action alternatives would be with Alternative 3. Marten habitat capability would also be reduced with the greatest effects in the Selected Alternative and the least in Alternative 3. Overall, the differences between the action alternatives are not significant.

The greatest direct effect on wildlife habitats would be the conversion of old-growth forest and a change in forest habitat conditions. The most important wildlife habitats such as beach and estuary fringe are protected in all the alternatives. No timber harvest will occur within a 500-foot strip of beach fringe; no harvest will occur within the 1,000-foot estuary buffer.

Additionally, six old-growth blocks greater than 1000 acres would be retained for the life of the project, within all action alternatives. All action alternatives exceed the Forest Plan wildlife habitat retention requirements. The Selected Alternative harvests 1.9 percent of the land area and 4.3 percent of the commercial forest habitat in the Shamrock area.

### ***Threatened and Endangered Species***

A Biological Assessment was completed for this project, identifying all threatened and endangered species occurring within the project area: humpback whale, American peregrine falcon, and Steller's sea lion. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service have concurred that the actions described within the proposed project are not likely to adversely affect threatened and endangered species.

### ***Sensitive Species***

A Biological Evaluation was completed for this project, identifying all sensitive species potentially occurring within the study area. The trumpeter swan, osprey, Peale's peregrine falcon, and the Queen Charlotte Goshawk are known or expected to occur within the Stikine Area. The goshawk, osprey, and trumpeter swan are known to occur within the study area. A finding of "no effect" was given to the Peale's peregrine falcon, osprey, and trumpeter swan. A finding of "may affect individuals, but is not likely to cause a trend to federal listing or a loss of viability" was given to the Queen Charlotte Goshawk.

The Selected Alternative's impacts on wildlife are consistent with Forest Plan Standards and Guidelines. The Selected Alternative strikes a balance between the purpose and need of the project and protecting wildlife habitat.

## **Issue 4: Fish**

**What effects will timber harvest and road construction have on habitats used by trout and salmon?**

### **Response:**

Comparing miles of stream buffers adjacent to harvest units and number of stream crossings provides some indication of the relative risk of effects to fish habitat. However, because of the stream protection measures, no alternative is expected to have a measurable effect on fish habitat or water quality. The Selected Alternative has the greatest length of unit boundary requiring stream buffers on one side of the streams, (2.4 miles). Alternative 4 has the least miles of stream buffers on one side of the creeks, (1.7 miles), and Alternative 3 has 2.0 miles of stream buffer on one side of the streams. All the action alternatives have the same amount of stream buffers on both sides of the streams (0.2 miles). The Selected Alternative is not expected to have a measurable effect on fish habitat or water quality.

### **Anadromous Fish Habitat Assessment**

I have reviewed the recently published "Report to Congress, Anadromous Fish Habitat Assessment" (AFHA Report) in relation to this project. This report makes recommendations for improving fish habitat protection measures on the Tongass National Forest. Many of the recommendations focus on the Revision of the Forest Plan. Others are directed at project implementation, but are somewhat long-term in nature (such as refining definitions, and classification, and inventory schemes). A couple of the recommendations can begin now: 1) actions responsive to intermittent and ephemeral channel protection and 2) monitoring.

1) Intermittent and ephemeral streams: These streams are identified where practical on unit cards and protection measures are designed into the Shamrock Timber Sale unit design. Whenever practical, harvest settings are split along these streams and the harvest prescription calls for leaving unmerchantable trees standing along these boundaries to protect water quality.

2) This project includes a monitoring plan. The Tongass National Forest completed an effectiveness monitoring strategy in 1994 (4/22/94) which establishes monitoring priorities related to water quality and fish habitat. Riparian buffer stability and fish passage through culverts were both identified as monitoring priorities and both may be monitored in the Shamrock Timber Sale Area.

All alternatives including the Selected Alternative provide adequate and essentially equal protection for fisheries.

### **Issue 5: Biodiversity**

**How will timber harvesting associated with the Shamrock harvest affect the biodiversity and old-growth structure on Kupreanof Island?**

#### **Response:**

Biodiversity is a concept applied to a given area or region that includes the variety of and variability among living organisms and the ecological complexes in which they occur. In Southeast Alaska, biodiversity is most often associated with the array of species dependent on old-growth forest habitat and can be measured by quantifying changes in the amount and fragmentation of old-growth and effects on wildlife habitat, fisheries, and threatened and endangered species.

Results of habitat capability models indicate that there would be relatively small reductions in overall habitat suitability and corresponding carrying capacity due to timber harvest in the Shamrock area. There would be little effect on habitat types other than forest that would result from harvesting in the Shamrock area. No harvesting or road building activity is expected to occur in estuarine, beach, or subalpine habitat. Some riparian areas would be impacted where roads cross streams, but use of best management practices (BMPs) should minimize the effects. Impacts to fish habitat are not considered great enough to substantially diminish this resource, and no effects on TES plants are expected to occur under any of the alternatives. These other biodiversity elements are further addressed in issues 2, 3, and 4.



The amount of old-growth proposed for harvest within the action alternatives ranges from 2.4 percent in Alternative 3 to 4.1 percent in the Selected Alternative.

The size distribution of contiguous old-growth blocks in the Shamrock area is displayed in Table 4-20 of the Final EIS. Six blocks of contiguous old-growth larger than 1000 acres will be maintained for the life of the project in all alternatives, though the total acreage of the six blocks will be reduced within the action alternatives.

The location of the Shamrock area in the central portion of Kupreanof Island is important as part of the linkage between the northern and southern portion of the island. Alternative 3, with less additional small blocks, and harvest units primarily within two watersheds, provides the greatest opportunity for the linkage of remaining old-growth habitat in the north and south portions of the island.

The Selected Alternative has the greatest amount of additional small blocks, but provides options for maintaining linkage of remaining old-growth habitat in the north and south portions of the island. None of the action alternatives including the Selected Alternative would preclude keeping the link between the north and south portions of the island.

## **Issue 6: Watershed**

**Will timber harvesting adversely affect the hydrologic balance and water quality of streams in the Shamrock study area?**

### **Response:**

The anticipated hydrologic impacts associated with timber harvesting within the Shamrock area under all action alternatives would be small. The area harvested within the major watersheds ranges from 1.6 percent for Alternative 3 to 2.5 percent for the Selected Alternative. Because of the low percentage of timber acres harvested within watersheds, the potential increase in runoff due to rain-on-snow events is low for all alternatives.

Although all Class I and Class II streams have at least 100-foot buffers adjacent to harvest units, 3.26 miles of Class III streams in the Selected Alternative would occur within or adjacent to the harvest units. Harvest along Class III streams would remove shade producing trees resulting in possible water temperature increases which could have an indirect effect on Class I and Class II streams. Because the length of streamside harvest does not exceed 2.1 percent of the total stream mileage within any watershed, increases to stream temperature within harvest areas are not expected to affect temperatures in the remaining portions of each stream system. Other potential water quality impacts on Class III streams will be mitigated by using Aquatic Habitat Management Unit prescriptions and Best Management Practices. The Selected Alternative is not expected to adversely effect the hydrological balance or water quality in the Shamrock Study Area.

**Issue 7:  
Floodplains**

**Will harvest activities and road construction in the Shamrock area affect the conveyance of floodwater or result in an increase in potential flood damage?**

**Response:**

The low percent of harvested acres proposed under all action alternatives would result in only minor, localized increases in the amount of water available to streams. This small amount of increase in water would not substantially alter the floodplain classification. The Selected Alternative is not expected to affect the conveyance of floodwater or result in an increase in potential flood damage.

**Issue 8:  
Soils**

**To what degree will soil erosion and sedimentation increase as a result of harvest activities and the construction of roads in the Shamrock area?**

**Response:**

All action alternatives avoid harvesting and road construction on soils rated extreme for landslide potential, and the application of BMP's and mitigation measures is expected to reduce the potential for mass wasting on areas with high hazard soils. Alternative 4 proposes the most harvest acreage (406 acres) on soils with a high potential for mass movement and Alternative 3 the least (294 acres). The Selected Alternative will harvest 393 acres on high hazard soils. These soils are generally stable in an undisturbed condition but there is a moderate risk of management induced failure. We reduced the risk by applying the following practices: maintaining natural surface and subsurface drainage patterns, minimizing soil disturbance, and avoiding increasing the effective weight on the soil mass. The Selected Alternative is not expected to affect the landslide potential in the area.

**Issue 9:  
Minerals**

**Will timber harvest and road building in the Shamrock Area affect mining activities?**

**Response:**

There are no active mining claims within the Shamrock area according to the U.S. Bureau of Land Management and the U.S. Bureau of Mines. Thus, construction of roads and the subsequent harvest of timber under all action alternatives would not cause impacts to the operation of existing mines. Review of the mineral assessment information, local geology, known mineral occurrences, and mining claim records, indicate that no specific areas of high value/high development potential, locatable mineral deposits have been identified within the Shamrock area. Timber harvest and road building activities under the Selected Alternative would provide access to undeveloped areas for possible future mineral exploration.

**Issue 10:  
Air Quality**

**Are there potential air quality impacts due to burning, road construction, or harvest activities?**

**Response:**

Impacts to air quality from burning and road construction are expected to be similar and negligible for all action alternatives including the Selected Alternative. The Selected Alternative is not expected to have measurable effects to air quality.

**Issue 11:  
Subsistence**

**To what extent will each alternative affect subsistence resources and use within the study area?**

**Response:**

The evaluation of comments from the public, subsistence hearing testimony, and additional analysis, indicates that the potential foreseeable effects from the action alternatives including the Selected Alternative do not indicate a significant possibility of a significant restriction for any subsistence resource except deer.

There may be a significant restriction on the subsistence deer resource in the future for all of the alternatives including the no action alternative due to the anticipated human population growth with its associated increase in subsistence hunter demand when compared to the habitat capability to produce deer.

Three major factors are used to assess subsistence impacts: access, changes in competition with non-rural users, and the abundance and distribution of subsistence resources.

***Deer Abundance and Distribution***

Computer modeling predictions for habitat capability changes in Wildlife Analysis Areas (WAAs) 5130 and 5133 show a potential reduction in deer habitat capability for all action alternatives. There would be a potential habitat capability reduction of 0.78% in Alternative 3 and a reduction of 1.4% in Alternative 4 and the Selected Alternative. These percentages do not indicate a substantial reduction in deer abundance in the future as a result of this project. Due to the scattered spacing of harvest units, changes in local deer herd distribution are expected to be slight to negligible in any of the alternatives.



### **Access to Deer**

Access to customary subsistence areas is not expected to be significantly affected by any of the action alternatives under consideration because the analysis avoided harvest in these areas. Access to these customary subsistence areas has been historically by boat and foot and this access will not change. Access to interior deer hunting areas currently not used for subsistence is expected to increase substantially as a result of road building associated with the Shamrock project. The amount of road built to provide access into the sale area ranges from 25 miles in Alternative 3 to 34 miles in Alternative 4 and the Selected Alternative. These roads will provide greater access to deer primarily for subsistence hunters and to a minor degree for non-subsistence hunters. No significant restrictions in access to deer by subsistence hunters is anticipated for any of the alternatives including the Selected Alternative.

### **Competition**

Increases in competition between subsistence hunters for deer resources is expected to lead to possible restrictions to subsistence use of deer in the future. Human population growth with its associated increase in subsistence demand is projected to increase beyond the habitat capability to produce the desired number of deer. This will occur for all the alternatives including the No Action Alternative. The analysis indicates that subsistence hunter demand in WAA 5133 already exceeds the habitat capability to produce the desired number of deer. Timber harvest in WAA 5133 is expected to reduce the abundance of deer only slightly and it may therefore further restrict subsistence use of deer slightly in this WAA. The analysis also indicates that subsistence hunter demand in WAA 5130 may exceed habitat capability to produce the desired number of deer in the future.

Little or no increase in competition between subsistence hunters and non-rural non-subsistence deer hunters is anticipated due to the logistical challenges and cost of transporting a vehicle to the area from a non-rural area. In addition to the logistical challenges, the relatively low deer numbers which naturally occur within the Shamrock area, the sport hunting seasons and sport bag limit are unlikely to draw non-rural hunters to the area. In the event that competition between sport and subsistence hunting or other factors reduces the availability of deer for subsistence, then sport hunting may be restricted by the Federal Subsistence Board to allow a priority for subsistence deer use.

The activities of the Selected Alternative by itself do not present a significant possibility of a significant restriction to subsistence use of deer. The project's specific effects on subsistence use of deer are minimal. The Selected Alternative projects a reduction in deer habitat capability of 1.4 percent in WAAs 5130 and 5133, access to subsistence deer in the interior of the island will increase, and competition between subsistence and non-subsistence hunters is not expected to increase. Subsistence needs are currently being met.

However, there is a significant possibility of a significant restriction when the Selected Alternative together with other past, present, and reasonably foreseeable actions are considered in a cumulative manner, because of human population growth projected to occur independent of whether the Selected Alternative is implemented.

**Issue 12:  
Cultural Resources**

**Would cultural resources, particularly Native American sites, be impacted by harvesting in the Shamrock Area?**

**Response:**

No cultural resources were discovered in any of the timber harvest units or roads during the field survey. The Alaska State Historic Preservation Officer has concurred with the Stikine Area's conclusion that there are no sites eligible to the National Register of Historic Places within the areas of potential effect (direct or indirect). All alternatives including the Selected Alternative provide adequate and essentially equal protection for cultural resources.

**Issue 13:  
Recreation**

**What effect will the proposed sale or sales in this area have on recreational opportunities?**

**Response:**

All of the action alternatives would provide greater access to the area and shift the nature of the recreation experience toward the development end of the Recreation Opportunity Spectrum (ROS). Many primitive areas would change to Semi-primitive or Roaded Modified. These changes in ROS class are consistent with the Forest Plan. The area may be used more than in the past for recreational purposes, most notably for driving, sightseeing, and accessing areas for picnicking, camping, fishing, and hunting. The road connection to Kake would provide access from that community and the Alaska Marine Highway. The introduction of roads into an area generally discourages users that prefer a primitive experience. However, few people currently use the primitive areas in the study area so impacts would be minimal.



Both the Selected Alternative and Alternative 4 have fewer acres changing from Primitive to Roaded Modified and more acres changing to Semi-primitive. Thus, the overall changes to ROS class are essentially the same for Alternatives 4 and the Selected Alternative. Alternative 3 has the least ROS changes of all the action alternatives.

The Selected Alternative's change in ROS is consistent with Forest Plan Standards and Guidelines.

***Wild and Scenic Rivers:***

**What effects will each alternative have on streams eligible or suitable for "Wild and Scenic River" designation?**

**Response:**

All the action alternatives under consideration maintain the Shamrock Area candidate rivers' free-flowing characteristics, outstandingly remarkable values, and eligibility for "Wild" classification. No development in any alternative is proposed within a candidate river corridor. Alternative 2 has been eliminated from consideration for selection because it did not maintain the eligibility of Castle River.

Castle River has "outstandingly remarkable" recreation, fish, and wildlife values because of the combination of recreation cabins, sport fishing, and waterfowl hunting opportunities. These values are concentrated at the mouth of Castle River and upstream for about two miles. This area is outside the Shamrock Study Area and would not be directly affected by proposed harvest units. Castle River also has "outstandingly remarkable" commercial fish values because of the large area of spawning and rearing habitat available. Fish values in the Selected Alternative are protected by excluding management activities within the candidate river corridor. Streams outside the corridor are protected through stream buffers and/or other Best Management Practices designed to protect water quality.

Tunehean Creek has "outstandingly remarkable" fish values because of the variety of fish, including steelhead. Fish values are protected in all alternatives by excluding management activities within the candidate river corridor. Streams outside the corridor are protected through stream buffers and/or other Best Management Practices designed to protect water quality.

The Irish Creek and Keku Creek system has "outstandingly remarkable" fish values due to the size of the stream system and the potential to produce large numbers of fish. Fish values in all alternatives are protected by excluding management activities within the candidate river corridor. Streams outside the corridor are protected through stream buffers and/or other Best Management Practices designed to protect water quality.

The Irish Creek and Keku Creek system also has "outstandingly remarkable" cultural values because the oldest known cultural site on the Stikine Area is located near the mouth of the stream. Timber harvest activities in all alternatives, including the Selected Alternative, would maintain the cultural site values because the site is located outside the study area and it is adequately protected by the National Historic Preservation Act of 1966, as amended.

Special emphasis to visual quality was applied to the harvest units seen from the candidate river corridors. During the analysis, units were limited in size, reduced in number from the available unit pool, boundaries located to take advantage of local terrain screening, and green tree retention was provided within the unit boundaries to reduce impacts upon scenery. Scenery is not an "outstandingly remarkable" value for any of the candidate rivers within the Shamrock study area. The Selected Alternative would have no effects on streams eligible or suitable for "Wild and Scenic River" designation.

**Issue 14:  
Visual Resources**

**To what extent will each alternative influence the landscape character of the analysis area, and to what extent will harvest designs be mitigated to protect visual quality?**

**Response:**

Inventoried Visual Quality Objectives (VQOs) within the Shamrock Area would be met under all the alternatives, including the Selected Alternative. The majority of harvest units, road miles, and rockpits would be located in areas where the inventoried VQO allows for Maximum Modification. Most of the remaining harvest unit acreage would be located in areas where the inventoried VQO allows for Modification, with a smaller portion being located in Partial Retention areas. Like the harvest units, most of the road miles and rockpits would be located in the Maximum Modification VQO setting. None of the alternatives would result in changes to the 184 acres of Retention VQO.

The vast majority of the natural appearing character as seen from sensitive travel routes and viewing areas is retained in all alternatives. Alternative 3 would result in the least amount of change in natural appearing character being altered (1 percent), followed by Alternative 4 (1.7 percent), and the Selected Alternative (1.8 percent). Table 4-35, in the Final EIS, illustrates changes to the seen area from sensitive viewing locations.

The majority of the harvest units, roads, and rockpits proposed under the three action alternatives would not be seen from the visually sensitive saltwater travel routes and use areas that surround Kupreanof Island. The few harvest units that could be seen are more than three miles away from the nearest saltwater.

The proposed harvest activities under any of the action alternatives would not be seen from the Petersburg-Kake (northern) small plane route. In contrast, some of the proposed units located in the southern portion of the Shamrock Area would be seen from the Petersburg-Tebenkof Bay (southern) small plane route.



Visual quality was protected during the harvest design by limiting unit size, reducing the number of units in a viewshed, and locating boundaries to take advantage of screening terrain. Individual unit mitigation includes green tree retention and feathering of unit edges in order to reduce the visual appearance of size and contrast created by timber harvest. The mitigation used is specified on unit cards for units that were either seen from Duncan Canal or exceeded unit size guidelines based upon VQO and Visual Absorption Capability (VAC) settings.

**Issue 15:  
Economics**

**Will action alternatives within the Shamrock Area include timber harvest(s) that are profitable and meet economic criteria for timber harvest in the Tongass National Forest?**

**Response:**

The mid-market analysis contained in the Final EIS depicted the Selected Alternative as providing the best net stumpage return per thousand board foot (MBF) followed by Alternatives 4 and 3, respectively. Net stumpage value per MBF was the primary economics element used for alternative comparison.

The mid-market analysis contained in the Final EIS resulted in a negative net stumpage value for all alternatives. This analysis is a means by which short-term costs and revenues for each alternative can be prepared. The analysis is done for the purpose of relative ranking of the alternatives only. The mid-market timber values are average values from the previous 10 years market. Actual timber values are currently much higher than those used in the mid-market analysis. As a result, this sale(s) is expected to have positive stumpage values at the time the sale is appraised and offered for bid.

Timber markets can change dramatically during the time between planning and selling of a timber sale. Due to these market variations, the estimate of timber end-product selling value for the EIS is based on the mid-market level. This mid-market assessment is based on weighted average pond log values from the previous decade, estimated logging and roading costs, normal profit ratios, and base rates in effect on the date the Forest Service initiates the NEPA process with publication of the Notice of Intent in the Federal Register. The Notice of Intent for this project was published in the Federal Register on December 23, 1991.

Timber values have been on a generally upward trend since 1991, with all indications that this trend will continue. A recent appraisal for the Bohemia Mountain Timber Sale EIS showed current (1995) net timber values exceeded the mid-market net stumpage value by over \$200 per thousand board feet (MBF). Timber quality and quantity is similar in both project areas due to their close geographical proximity and stand characteristics. In light of current market conditions and given the limited supply of timber from other sources, all action alternatives would have a positive net value. It is estimated that the net stumpage value would be \$10 per MBF or \$220,000 in Alternative 3, \$30 per MBF or \$990,000 in Alternative 4, and \$51 per MBF or \$1,940,000 in the Selected Alternative. The timber sale(s) proposed for this project will be sold at the minimum acceptable rates or higher when offered.

## Summary of the Issues

The Selected Alternative was chosen after reviewing the 15 major issues identified above. Because all of the alternatives follow the standards and guidelines, there is little difference between the action alternatives for the wildlife, subsistence, fisheries, watershed, soils, recreation, visual, floodplain, biodiversity, minerals, air quality, and cultural resource issues.

An important consideration for my decision is that the Selected Alternative has no management activities in Wild and Scenic River Corridors. The Selected Alternative also provides the most volume to contribute to the Forest Service's attempt to seek to meet market demand while being consistent with the Tongass Land Management Plan and standards and guidelines for all resources. Current timber market analysis indicates that the timber demand appears to exceed timber supply. The Selected Alternative will contribute to supply. This volume is necessary as a component of the timber sale schedule to provide timber to industry in an even flow over the ten year planning cycle. The timber volume is also necessary as a substantial component of the timber sale program to be offered in 1996 on the Stikine Area to meet annual market demand.

In addition to best meeting market demand, the Selected Alternative also provides the best net stumpage values per MBF, generates the most regional employment and income, and has the greatest contribution to the Gross National Product of any of the action alternatives.

## Public Involvement

Ongoing public involvement has been instrumental in the identification and clarification of issues for this project. This has been helpful in the formulation of alternatives and has assisted me in making a more informed decision for the Shamrock project. Public meetings, Federal Register notices, news releases, open houses, subsistence hearings, Stikine Area Project Schedule, and group and individual meetings were some of the tools used to solicit input for this project.

**Notice of Intent:** A Notice of Intent to Prepare an Environmental Impact Statement was published in the Federal Register, December 23, 1991, when it was decided that an EIS was needed for the project.

**Public Comment received for the Draft EIS:** Public comments to the Shamrock Timber Sale(s) Draft EIS were received from July 28, 1993 to November 22, 1993. A total of 17 letters were received prior to the close of the public comment period and were formally responded to in the Final EIS (Appendix F).

**Public Comment received for the Supplemental Draft EIS:** Public comments to the Supplemental Draft EIS were received from December 1, 1994 through January 30, 1995. A total of 14 letters were received prior to the close of the public comment period and were formally responded to in the Final EIS (Appendix G). One additional letter was received after the close of the comment period which was not responded to formally but considered to the extent possible in the Final EIS.



# Coordination With Other Agencies

From the time scoping was initiated, meetings and site visits with interested State and Federal agencies have occurred. Issues were discussed and information was exchanged.

The Final EIS identifies the agencies that were informed of and/or involved in the planning process (see *List of Agencies, Organizations, and Individuals to Whom Copies of this Statement Were Sent*). See also the discussion of subsistence in the section entitled *Findings Required by Law*, later in this ROD.

## Alternatives

### Alternatives Not Considered in Detail

#### Alternative Silviculture:

During the preliminary planning stage of the analysis, "alternative silviculture" (non-clearcut) methods were considered for many of the harvest units in the alternative pool to promote biodiversity and maintain similar stand structure to old-growth timber stands in the Shamrock Area. After analysis of the vegetative conditions of each potential harvest unit, the use of uneven-aged management on a large scale was dropped from further consideration for several reasons. Silvicultural objectives to achieve vigorous, early successional timber stands would not be obtained, and the risk of windthrow and re-infecting residual timber with dwarf mistletoe precluded alternative silvicultural methods as a viable action alternative in itself. Additionally, the costs were prohibitive due to the fact that helicopter yarding would be the primary harvest system. However, partial cutting, primarily in the form of green tree retention, was prescribed for a few units within each action alternative where conditions were considered conducive to alternative silviculture and where it would help meet specific visual and wildlife resource objectives.

#### Harvest in Unnamed Creek:

During the preliminary planning stage of this analysis, potential harvest units were considered on the north-facing slopes of the unnamed creek that drains into Duncan Canal south of Taylor Creek. Examination of aerial photos and several aerial flights over the area indicated that the area had a high potential for mass-movement of soils. Side slopes are very steep, and there is evidence of mass wasting.

#### Irish and Tunahean Creek Areas:

During the preliminary planning process, potential harvest units were identified in the western portion of the analysis area in the vicinity of Irish Creek and Tunahean Creek. Entering these units was deferred at this time due to the necessity of extensive road construction through non-commercial forest land to access the better timber. Deferring entry in this portion of the Shamrock Area also addresses biodiversity concerns related to maintaining large, contiguous areas of old-growth forest that would not be harvested for the life of the project.

## **Alternatives Selected for Detailed Evaluation**

Five alternatives were considered in detail in the Final EIS, with Alternative 2 dropped from consideration. Each action alternative is consistent with the Tongass Land Management Plan, as amended, and Alternative P of the TLMP Draft Revision (1991).

The analysis of each alternative displays (1) the areas considered for harvest, (2) the location of new roads for access, (3) the type of logging systems to be used, and (4) site locations of log transfer facilities to be used. For a complete description of these alternatives refer to Chapter 2 of the Final EIS. These Alternatives are:

- Alternative 1** This Alternative does not propose any timber harvest or road construction in the Shamrock Area. Substitute volume may or may not be available from some other area in the Tongass National Forest. Management of the Shamrock Area would continue as it currently exists.
- Alternative 2** This Alternative has been eliminated from consideration for selection.
- Alternative 3** This Alternative was designed to concentrate timber harvest in the northern half of the Shamrock Area, leaving large blocks of old-growth unharvested in the southern half. Timber would not be harvested within one quarter mile of rivers considered eligible for Wild and Scenic status. Harvest would be minimized in the Castle River and Irish/Keku Creek drainages.
- Alternative 4** This Alternative was designed to construct a major transportation system through the Shamrock Area, while avoiding the corridors of rivers considered eligible for Wild and Scenic status. This Alternative minimizes the impact to the Castle River drainage and has more harvest and roads compared to Alternative 3.
- Alternative 5** This Alternative was designed to maximize timber volume and minimize road construction to achieve the most economically viable alternative without placing roads or harvest units in the eligible Wild and Scenic River corridors. Harvest units are located in the upper reaches of the Castle River drainage but are outside the eligible Wild and Scenic corridor. This Alternative was identified as the Forest Service Preferred Alternative in both the Draft and Supplemental Draft EIS.

## **Environmentally Preferred Alternative**

Based on a comparison of the alternatives, and the discussion contained within Chapter 4 of the Final EIS, Alternative 1, the No Action Alternative, would cause the least environmental disturbance and is therefore the environmentally preferred alternative of all the alternatives studied in detail.

Of the action alternatives, Alternative 3 is the environmentally preferred action alternative. This alternative minimizes the amount of road construction and timber harvest, minimizes effects to wildlife habitat, and maintains Wild and Scenic River eligibility.

## Mitigation

Mitigation includes measures taken to avoid, reduce, or minimize the adverse effects of actions. These measures were applied in the development of the project alternatives, including the Selected Alternative, and in the design of the harvest units and roads corridors. The *Mitigation Measures* section of Chapter 2 of the Final EIS discusses the mitigation measures common to all alternatives.

Mitigation measures applicable to the Selected Alternative include mitigation measures contained in the Tongass Land Management Plan of 1979 (as amended), 1991 draft Tongass Land Management Plan Revision (RTLMP), Alaska Regional Guide, and applicable Forest Service Manuals and Handbooks. The Final EIS includes site-specific mitigation measures described in Chapter 2, Unit Descriptions (Appendix A), and Road Descriptions (Appendix B). These measures are adopted as part of this decision and will be implemented. All practical means to avoid or minimize adverse environmental effects of the Selected Alternative have been adopted.

## Monitoring and Enforcement

A monitoring program is the process by which the Forest Service can evaluate whether or not the resource management objectives of the final environmental documents have been implemented as specified and whether or not the steps identified for mitigating the environmental effects were effective. Three levels of monitoring are recognized. The first two levels, implementation monitoring and effectiveness monitoring, are generally feasible at the project level. The third level, validation monitoring, is conducted at the Regional or Forest level.

Monitoring requirements are specified at the end of Chapter 2 of the Final EIS. These monitoring items are adopted as part of this decision and will be implemented. Each monitoring item describes what the item is, where it is to occur, when it is to occur, how it will occur, and the intended use of the monitoring information. Monitoring activities may reveal results that deviate from planned effects, in which case corrective actions are prescribed.

The Petersburg District Ranger is responsible for ensuring that project implementation, mitigation, monitoring, and enforcement are accomplished as specified in the Final EIS.



# Findings Required By Law

## National Forest Management Act

The National Forest Management Act (NFMA) requires specific determinations in this Record of Decision: consistency with existing Forest Plans and Regional Guides, a determination of clearcutting as the optimal method of harvesting, and specific authorization of clearcuts over 100 acres in size.

## Tongass Land Management Plan and Alaska Regional Guide

This decision is consistent with the Alaska Regional Guide and the Tongass Land Management Plan of 1979 (as amended). I have reviewed the management direction, standards and guidelines, and the schedule of activities for the VCUs included in the Selected Alternative, and find the Selected Alternative to be consistent with these elements. The areas of undisturbed old-growth wildlife habitat maintained in this Alternative exceed the standards for retention established in the TLMP.

Although not required, the activities authorized in this decision are consistent to the extent practicable with the proposed standards and guidelines and management prescriptions of the 1991 Supplement to the Draft EIS for the TLMP Revision.

## Clearcutting as the Optimal Method of Harvesting

All but one (unit #40) of the units planned in the Selected Alternative have a stand management objective of timber production accomplished by a single regeneration harvest with green tree retention resulting in conversion to a predominantly even-aged stand.

These units will have individual green trees and snags left along setting boundaries and roads wherever it is compatible with safety and logging feasibility to contribute to future stand structure. These individual trees will be designated at the time of harvest. These trees will be selected for windfirmness, freedom from insects, disease and dwarf mistletoe, wildlife attributes, and noncommercial value. This is in addition to the areas designated for green tree retention in Appendix A (Unit Descriptions) of the Final EIS.

Unit #40 will be harvested as a uneven-aged group selection with one third of the unit harvested in small groups varying in size from one to two acres.



I have determined that the use of clearcutting with individual green tree retention to achieve the unit objectives is the optimal silvicultural method for this project for the following reasons:

The Alaska Regional Guide established silvicultural and management standards for the western hemlock-Sitka spruce forest type (Alaska Regional Guide, page 3-18). Even-aged management in the form of clearcutting is, according to the Regional Guide, to be used where the management objective is to meet timber production objectives established in the Forest Plan, where there is a risk of dwarf mistletoe infection, and where risk of windthrow is determined to be high. Although dwarf mistletoe is not a major problem, it is found throughout the Shamrock Project Area.

All of the harvest units being proposed are within Land Use Designation (LUD) IV. LUD IV lands are defined in the Forest Plan as lands that are to be primarily used for commodity production.

The use of clearcutting with individual green tree retention will meet the objective of maintaining fast-growing, dwarf mistletoe-free stands of mixed species and is the optimum method of harvesting considering the following factors referenced in the Alaska Regional Guide:

1. The thin bark and shallow roots of hemlock and spruce make them particularly susceptible to logging injury which leads to decay and mortality. Losses from decay fungi are high, especially in the old-growth forests of Alaska. Conversion from old-growth to young growth by clearcutting has the greatest potential for reducing decay.
2. Hemlock dwarf mistletoe, *Arceuthobium tsugense*, a common disease of western hemlock, can best be controlled by clearcutting. Elimination of residual overstory trees infected with dwarf mistletoe minimizes infection of western hemlock regeneration in the new stand.
3. Exposure to the sun raises soil temperature, which speeds decomposition and nutrient cycling, thereby improving the productivity of the sites.
4. Clearcutting favors regeneration of Sitka spruce by destroying much of the advanced hemlock regeneration and by creating more favorable conditions for spruce regeneration.
5. The risk of blowdown within residual stands is eliminated. The chance of blowdown along cutting boundaries is increased but can be reduced through proper design of cutting units.
6. Natural regeneration of spruce and hemlock is increased after clearcutting.
7. Logging costs are lower than with other silvicultural systems.

On June 4, 1992, F. Dale Robertson, Chief of the Forest Service, issued a letter on the subject of ecosystem management. As part of this letter, an attachment was included regarding clearcutting on National Forest lands and the use of other silvicultural systems including green tree retention.

The Chief's policy allows clearcutting as an appropriate silvicultural system when its use is instrumental in achieving forest plan objectives while precluding or minimizing the occurrence of potentially adverse impacts of insect or disease infestations, windthrow, logging damage, or other factors affecting forest health. It is also appropriate to provide for the establishment and growth of desired trees or other vegetative species that are shade intolerant.

The use of clearcutting with individual green tree retention is appropriate and consistent with the following criteria in the Chief's letter: The use of clearcutting with individual green tree retention will meet the Forest Plan objectives of timber production while maintaining fast-growing, dwarf mistletoe-free stands of mixed species. Clearcutting with individual green tree retention on the Shamrock Timber Sale(s) will control dwarf mistletoe with the careful selection of dwarf mistletoe-free residual trees. It will minimize the future windthrow risk within the stand. The risk of windthrow to adjacent stands may be increased but can be reduced through proper harvest design.

Clearcutting with individual green tree retention should minimize the potential for logging injury to the residual stand with its subsequent increased mortality and decay. It will provide for natural regeneration and growth of desired trees including a greater component of spruce and cedar which are less shade tolerant than hemlock. This may increase the vegetative diversity of the stand.

### **Units Over 100 Acres in Size**

Units over 100 acres in size require Forest Supervisor approval. There are five units over 100 acres in the Selected Alternative. Units and acres are as follows: Unit 13 (102 acres), Unit 28 (123 acres), Unit 36 (114 acres), Unit 61 (113 acres) and Unit NI9 (110 acres). Factors considered in design of these units can be found in table 2-4 and Appendix A (Unit Descriptions) of the Final EIS. As Forest Supervisor with authority for this sale, I approve all five of these units.

### **Tongass Timber Reform Act**

Harvest units were designed and will be located to maintain a minimum 100-foot buffer zone for all Class I streams and Class II streams which flow directly into Class I streams as required in Section 103 of the TTRA. As discussed in the Mitigation section of Chapter 2 of the Final EIS, the actual widths of these buffer strips will often be greater than the 100-foot minimum. The design and implementation direction for the Selected Alternative incorporate BMPs for protection of all stream classes.

**Endangered  
Species Act**

Actions authorized in the Selected Alternative are not anticipated to have a direct, indirect, or cumulative effect on any threatened, or endangered species in the Shamrock Project Area. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service have concurred with the conclusion of the Petersburg Ranger District wildlife biologist that the actions described within the proposed project are not likely to adversely affect threatened and endangered species. A complete biological assessment is included in the planning record for this project. I have determined that this action will not have any adverse impacts on any threatened or endangered species.

**Bald Eagle  
Protection Act**

Management activities within 330 feet of an eagle nest site are restricted by a Memorandum of Understanding (MOU) between the Forest Service and the U.S. Fish and Wildlife Service to facilitate compliance with the Bald Eagle Protection Act. The Selected Alternative is not anticipated to have a significant direct, indirect, or cumulative effect on any bald eagle habitat.

**Clean Water Act**

The design of harvest units and roads for the Selected Alternative were guided by standards, guidelines, and direction contained in the current Tongass Land Management Plan, Alaska Regional Guide, and applicable Forest Service manuals and handbooks. The Unit Description Cards (see Appendix A) and Road Description Cards (see Appendix B) contain specific details on practices prescribed to prevent or reduce non-point sediment sources. Reasonable implementation with site specific application and monitoring of approved BMPs is expected to comply with applicable State Water Quality Standards Regulations.

These regulations provide for variances from anti-degradation requirements and water quality criteria. The harvest and road building operators will be responsible for compliance, including obtaining any variance required by the State, and will be monitored for compliance by the Forest Service. The Forest Service expects the Shamrock Timber Sale(s) Project Area activities to fully qualify for any variance required by the State, according to the criteria in 18 AAC 70.015.

**National Historic  
Preservation Act**

Cultural resource surveys of various intensities have been conducted in the Project Area. The State Historic Preservation Officer has been consulted, and the provisions of 36 CFR part 800 have been complied with. I have determined that there will be no significant effects on cultural resources.



## **Subsistence Evaluation and Findings**

A subsistence evaluation was conducted for the five alternatives considered in detail for the proposed action in accordance with ANILCA Section 810. ANILCA Section 810 hearings were held in Petersburg (October 12, 1993 and January 24, 1995) and in Kake (October 13, 1993 and January 26, 1995). During the hearings, subsistence concerns were expressed by people giving testimony.

The evaluation of comments from the public, subsistence hearing testimony, and additional analysis, indicates that the potential foreseeable effects from the action alternatives in the Shamrock Project Area do not indicate a significant possibility of a significant restriction of subsistence uses for black bear, furbearers, marine mammals, waterfowl, salmon, other finfish, shellfish, and other foods such as berries and roots.

However, there may be a significant possibility of a significant restriction of subsistence use of Sitka black-tailed deer in the project area. Implementation of the Selected Alternative by itself does not present a significant possibility of a significant restriction to subsistence use of deer. The project's effects on restricting subsistence use of deer are minimal. The Selected Alternative projects a reduction in deer habitat capability in the future of only 1.4 percent. Subsistence hunters will have increased access to deer in the interior of the island which historically has not been used for subsistence or sport hunting. The Selected Alternative will not change competition between subsistence and non-subsistence hunters. Subsistence needs in the communities are currently being met. However, there is a significant possibility of a significant restriction when the Selected Alternative together with other past, present, and reasonably foreseeable actions are considered in a cumulative manner. This restriction exists regardless of which alternative is implemented, including the No Action Alternative, because of the anticipated human population growth with its associated increase in subsistence hunter demand for deer which will exceed the habitat capability to produce the desired number of deer. This possibility of restriction of subsistence use would most likely affect the rural communities of Kake, Wrangell, Petersburg, Kupreanof, Port Protection, and Point Baker which have documented use of various subsistence resources within the analysis area.

## **Subsistence Determinations**

Section 810 (a)(3) of ANILCA requires that when a use, occupancy, or disposition of public lands would significantly restrict subsistence uses, determinations must be made that (1) the significant restriction of subsistence uses is necessary, consistent with sound management of public lands, (2) the proposed activity involves the minimum amount of public lands necessary, and (3) reasonable steps will be taken to minimize adverse impacts on subsistence uses and subsistence resources resulting from the action.

## **Necessary, Consistent with Sound Management of Public Land**

The Selected Alternative has been examined to determine whether the associated potential restriction to subsistence use is necessary, consistent with the sound management of public lands. Standards used for the review include (1) the National Forest Management Act of 1976 and its implementing regulations; (2) the Alaska National Interest Lands Conservation Act (ANILCA) 1980; (3) the Alaska Regional Guide (1983); (4) the Tongass Land Management Plan and Draft Revision; (5) the Tongass Timber Reform Act (TTRA) 1990; (6) the Alaska State Forest Practices Act; (7) the Alaska Coastal Management Program; (8) Multiple Use Sustained Yield Act (1960); (9) Subsistence Management and Use Handbook (1985), and (10) Subsistence Evaluation and Finding, FSH 2609.25 (revision 1988).

The ANILCA placed an emphasis on the maintenance of subsistence resources and lifestyles. However, the Act also provided for adequate opportunity for satisfaction of the economic and social needs of the State of Alaska and its people and recognized public lands necessary and appropriate for more intensive uses. The Act also required the Forest Service to make available for harvest 4.5 billion board feet of timber per decade from the Tongass National Forest. The TTRA removed the 4.5 billion board foot requirement from ANILCA, but directed the Forest Service to seek to meet market demand for timber to the extent consistent with providing for the multiple use and sustained yield of all renewable forest resources, and subject to applicable law.

The Selected Alternative is necessary as a component of the timber management program designed to implement the Forest Plan and to meet TTRA direction. There is currently a very strong market demand for timber, a limited timber supply from other sources, and an underutilized mill capacity in the region. Current timber demand appears to exceed supply. The Selected Alternative provides the most volume to contribute to the Forest Service's attempt to seek to meet market demand. This volume is provided as a component of the 10 year timber sale schedule which attempts to provide timber to industry in a even flow over the planning cycle. The timber volume is also a substantial component of the timber sale program to be offered in 1996 on the Stikine Area to meet annual market demand. Timber volume from other areas of the National Forest is not readily available to replace this volume within a reasonable timeframe.

Of the action alternatives, the Selected Alternative best meets the objectives of Forest Plan and TTRA direction while also providing protection measures for forest resources. It is consistent with the Forest Plan and laws, regulations, policies, public needs, and the capabilities of the land.

Based on a review of the subsistence hearing testimony and the analysis conducted in the Final EIS, it is apparent that all of the action alternatives involve some potential impact to subsistence deer use in the future.



Based on the analysis of the information presented in this document on the proposed alternatives, and on the guidance provided by the documents listed above, these actions are considered necessary, consistent with sound management of public lands.

Therefore, based on the analysis of the information presented in the Final EIS, it is my determination that the Selected Alternative is necessary, consistent with sound management of public lands and strikes the best balance between meeting the needs of the public and protecting the forest resources.

### **Amount of Land Necessary to Accomplish the Purpose of the Proposed Action**

The amount of public land involved to implement the Selected Alternative is (considering sound multiple-use management of public lands) the minimum necessary.

The Shamrock Study Area was selected to become part of the timber sale scheduling program because it is designated as LUD IV, a multiple use area with an emphasis on commodity production, in the Forest Plan. The harvest was planned there to avoid impacting other areas of Kupreanof Island such as the LUD I Wilderness to the northwest, the LUD II area to the west, and the LUD III areas to the north and east of the Shamrock Study Area. The Selected Alternative also incorporates analysis from the RTLMP and avoids the Wild and Scenic River corridors and the proposed Semi-Primitive recreation area along Duncan Canal.

The Selected Alternative provides a sound harvest unit and road design. It is located as the next logical extension of the existing Kupreanof road system. The minimum amount of land and roading was used to resolve resource concerns while meeting the purpose and need for this project in a practical and efficient manner. The Selected Alternative harvests only 1.9 percent of the land area and 4.3 percent of the commercial forest land in the study area, leaving 98 percent of the land in a natural state. Resources were protected to the maximum extent practicable.

Choosing an alternative other than the Selected Alternative (including the No Action Alternative) or locating harvest in another location on Kupreanof Island would not avoid or substantially lessen the risk to subsistence use in the future. The total deer habitat capability projected into the future is only expected to be reduced by 1.4 percent by harvest from the Selected Alternative when compared to the No Action Alternative. The risk to subsistence use in the future is primarily related to the anticipated human population growth with its increased subsistence hunting demand. This population growth is independent of the Shamrock project.

Also, the deer habitat quality in the Shamrock Area is relatively poor. If timber harvest was shifted to other areas of the Tongass it would likely occur on higher value deer habitat which could result in more of a negative effect on future deer habitat capability on a forest-wide basis.

The entire Tongass National Forest is used by one or more rural communities for subsistence purposes for deer hunting. The areas of most subsistence use forest-wide are the areas adjacent to existing road systems, beaches, and the areas in close proximity to communities. Management activities can not completely avoid these subsistence areas due to their location and broad extent across the forest. Areas other than subsistence use areas that could be harvested may be limited by other resource concerns such as soil and water protection, high-value wildlife habitat, economics, visuals, or unit and road design. The impact of viable timber harvest projects always includes alteration of old-growth habitat which reduces habitat capability for old-growth dependent species. It is not possible to lessen harvest in one area and concentrate it in another without impacting one or more rural communities' important subsistence use areas. In addition, harvestable populations of game species could not be maintained in a natural distribution across the forest if harvest were concentrated in specific areas. A well-distributed population of species is also required by the Forest Service regulations implementing the National Forest Management Act (NFMA).

It is my determination that the Selected Alternative involves the minimum amount of public lands necessary and strikes the best balance between meeting the needs of the public and protecting the forest resources.

### **Reasonable Steps to Minimize Adverse Impacts Upon Subsistence Uses and Resources**

Considerable steps were taken to minimize adverse impacts to subsistence uses and resources. The Selected Alternative reflects special efforts to minimize the effects on subsistence resources used by those rural communities that would be most likely to receive the highest priority for game in the event of an ANILCA Section 804 "Tier II" restriction.

Much effort was taken during the Shamrock analysis to protect the highest value subsistence areas. All areas of historic subsistence use are avoided in the Selected Alternative. No units or roads were placed within the beach fringe and river corridors which are the areas of traditional use. Planned timber harvest occurs only on lands designated as LUD IV with commodity emphasis in the Forest Plan.

Impacts to subsistence have been minimized through the development of individual harvest units and roads and through the formulation of the alternatives.

The deer habitat is relatively poor in the Shamrock Area compared to other areas on the Tongass. There is no habitat which rates as "good". The best habitat in the area rates as "average". Harvest in "average" winter range habitat was also minimized to reduce impacts to deer. The Selected Alternative harvests only 4.75 per cent of the "average" habitat in the area.

One of the most significant subsistence resources in the analysis area is salmon. Fish habitat is protected in the Selected Alternative through the application of the BMPs and stream buffers. In addition to protecting fish habitat these buffers also protect estuarine and riparian habitat important to other species such as deer, black bear, and furbearers.

Chapter 2 describes the standards, guidelines and mitigation measures that will be implemented as part of the Selected Alternative. Most of the standards, guidelines and mitigation measures are designed to maintain fish and wildlife habitat productivity at as high a level as possible, while still maintaining a supply of timber.

A significant possibility of a significant restriction on the subsistence use of deer in WAA 5133 is expected due to high projected hunter demand in that area in the future. Vegetation and habitat changes associated with the Shamrock timber sale are not expected to significantly affect deer numbers in this WAA, but the improved access provided by logging roads could exacerbate the effects of subsistence hunter demand. Implementation of the road closures listed in the Road Management Objectives after timber harvesting will reduce subsistence hunter demand in WAA 5133.

It is my determination that reasonable measures to minimize impacts on subsistence have been adopted to the maximum extent practicable while still meeting the purpose and need for this project.

## **Coastal Zone Management Act**

The Coastal Zone Management Act of 1972 (CZMA), while specifically excluding Federal lands from the coastal zone, requires that a Federal agency's activities be consistent with the enforceable standards of a state's coastal management program to the maximum extent practicable when the agency's activities affect the coastal zone.

The enforceable standards for timber harvest activities are found in the State Forest Practices Act. The standards and guidelines for timber management activities in the Shamrock Project Area meet or exceed the standards in the State Forest Practices Act.

I have determined that the proposed activities are consistent with the Alaska Coastal Management Program to the maximum extent practicable. The Division of Governmental Coordination will do a consistency review of the project based on this Record of Decision and will concur with, or object to, this determination.



## Executive Orders

### Executive Orders 11988 and 11990

Executive Order 11988 directs Federal agencies to take action to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of floodplains. The numerous streams in the Shamrock Project Area makes it impossible to avoid all floodplains during timber harvest and road construction. The design of the proposed developments and the application of Best Management Practices combine to minimize adverse impacts on floodplains.

Executive Order 11990 requires Federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the destruction or modification of wetlands. Soil moisture regimes and vegetation on some wetlands may be altered in some cases; however, these altered acres would still be classified as wetlands and function as wetlands in the ecosystem.

Less than one percent of the forested wetlands within the project area will be affected by proposed harvest units in the Selected Alternative.

## Federal and State Permits

Federal and State permits necessary to implement the authorized activities are listed at the end of Chapter 1 of the Final EIS.

## Implementation Process

Implementation of this decision may occur no sooner than 30 days after the date of publication of the Notice of Availability of the Final EIS in the Federal Register, or 52 days following publication of the legal notice of the decision in the *Petersburg Pilot*, published in Petersburg, Alaska, whichever is later. The first timber sale from this project is planned to be offered in the fall of 1996.

This project will be implemented in accordance with Forest Service Manual and Handbook direction for Timber Sale Project Implementation in FSM 2431.3 and FSH 2409.24. This direction provides a bridge between project planning and implementation and will ensure execution of the actions, environmental standards, and mitigations approved by this decision, and compliance with TTRA and other laws.

Implementation of all activities authorized by this Record of Decision will be monitored to ensure that they are carried out as planned and described in the Final EIS.

Appendix A of the Final EIS contains the Harvest Unit Design Cards and Appendix B contains the Road Design Cards. These cards are an integral part of this decision because they document the specific resource concerns, management objectives, and mitigation measures to govern the layout of the harvest units and construction of roads. These cards will be used during the implementation process to assure that all aspects of the project are implemented within applicable standards and guidelines and that resource impacts will not be greater than those described in the Final EIS. Similar cards will be used to document any changes to the planned layout as the actual layout and harvest of the units occurs with project implementation. The implementation record for this project will display each harvest unit, transportation facility, and other project components as actually implemented, any proposed changes to the design, location, standards, and guidelines, or other mitigation measures for the project, and the decisions on the proposed changes.

## **Process for Changes Resulting from Implementation Monitoring**

Proposed changes to the authorized project actions will be subject to the requirements of the National Environmental Policy Act (NEPA), the National Forest Management Act of 1976 (NFMA), Section 810 of the Alaska National Interest Lands Conservation Act, the Tongass Timber Reform Act (TTRA), the Coastal Zone Management Act (CZMA), and other laws concerning such changes.

In determining whether and what kind of NEPA action is required, the Forest Supervisor will consider the criteria for whether to supplement an existing Environmental Impact Statement (EIS) in 40 CFR 1502.9(c), and FSH 1909.15, sec. 18, and in particular, whether the proposed change is a substantial change to the Selected Alternative as planned and already approved, and whether the change is relevant to environmental concerns. Connected or interrelated proposed changes regarding particular areas of specific activities will be considered together in making this determination. The cumulative impacts of these changes will also be considered.

The intent of field verification is to confirm inventory data and to determine the feasibility and general design and location of a unit or road, not to locate final boundaries or road locations. Minor changes are expected during implementation to better meet on-site resource management and protection objectives. Minor adjustments to unit boundaries are also likely during final layout for the purpose of improving logging system efficiency. This will usually entail adjusting the boundary to coincide with logical logging setting boundaries. Many of these minor changes will not present sufficient potential impacts to require any specific documentation or other action to comply with applicable laws. Some minor changes may still require appropriate analysis and documentation to comply with FSH 1909.15, sec. 18.

# Right to Appeal


This decision is subject to administrative appeal. Organizations or members of the general public may appeal this decision according to Title 36 Code of Federal Regulations (CFR) 215. The appeal must be filed within 45 days of the date that legal notification of this decision is published in the Petersburg Pilot, the official newspaper of record. The Notice of Appeal must be filed in duplicate with:

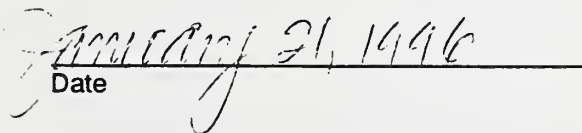
Phil Janik, Regional Forester  
Forest Service  
U.S. Department of Agriculture  
P.O. Box 21628  
Juneau, AK 99802-1628

It is the responsibility of those who appeal a decision to provide the Regional Forester sufficient written evidence and rationale to show why the decision by the Forest Supervisor should be changed or reversed. This written Notice of Appeal must:

1. State that the document is a Notice of Appeal filed pursuant to 36 CFR Part 215;
2. List the name, address, and, if possible, the telephone number of appellant;
3. Identify the decision document by title and subject, date of the decision, and name and title of the Responsible Official;
4. Identify the specific change(s) in the decision that the appellant seeks or portion of the decision to which the appellant objects;
5. State how the Responsible Official's decision fails to consider comments previously provided, either before or during the comment period specified in 36 CFR 215.6 and, if applicable, how the appellant believes the decision violates law, regulation, or policy.

For additional information concerning this decision, contact Jim A. Thompson, Forest Service Interdisciplinary Team Leader, Petersburg Ranger District, P.O. Box 1328, Petersburg, AK 99833, or call (907) 772-3871.

  
ABIGAIL R. KIMBELL  
Forest Supervisor, Stikine Area  
Tongass National Forest

  
Date





## **UNIT 28 UNIT CARD AND DESCRIPTION**

## DEVELOPMENT OF UNIT BOUNDARY

As originally planned, this unit was divided into two harvest units. After examining windthrow hazard conditions on the ground, it was concluded that the area between these two units should be harvested because of high windthrow potential. This area was included in a 430 acre harvest unit in the planning of the Totem Timber Sale (1984). A relatively windfirm south boundary (comprised of blowdown patches) was located.

## RESOURCE CONFLICTS AND MITIGATIONS

### Visual

Conflict: Large harvested area would be visible from Road 6314 and small plane route.  
Mitigation: Implement green tree retention area to soften visual effects. Remove approximately half the volume, with large trees being retained within the interior of the area and small trees being retained on the edge of the area.

### Soils

Conflict: V-notch is located in the south part of unit between landings 1A and 1.  
Mitigation: Split yard V-notch. Require removal of logging debris from stream channel.

### Wildlife

Conflict: Portions of unit contain marginal deer winter range habitat.  
Mitigation: This unit has been reduced from 177 acres to 123 acres to help minimize reduction of winter range habitat.

### Wetlands

Conflict: Unit surrounded by wetlands.  
Mitigation: Avoid unnecessary disturbance to wetlands located beyond unit boundaries.

## DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.9    Miles of Specified Road within Unit.  
0.2    Miles of spur road anticipated.  
12    Landings

Timber Attributes:

2,460 MBF    Estimated total volume within unit (net sawlog)  
20 MBF    Estimated volume per acre harvested within unit  
Acres by Volume Class within unit:  
45    Volume Class 4 (8-20 MBF/acre)  
64    Volume Class 5 (20-30 MBF/acre)  
14    Volume Class 6 (30-50 MBF/acre)  
00    Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

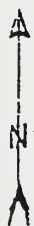
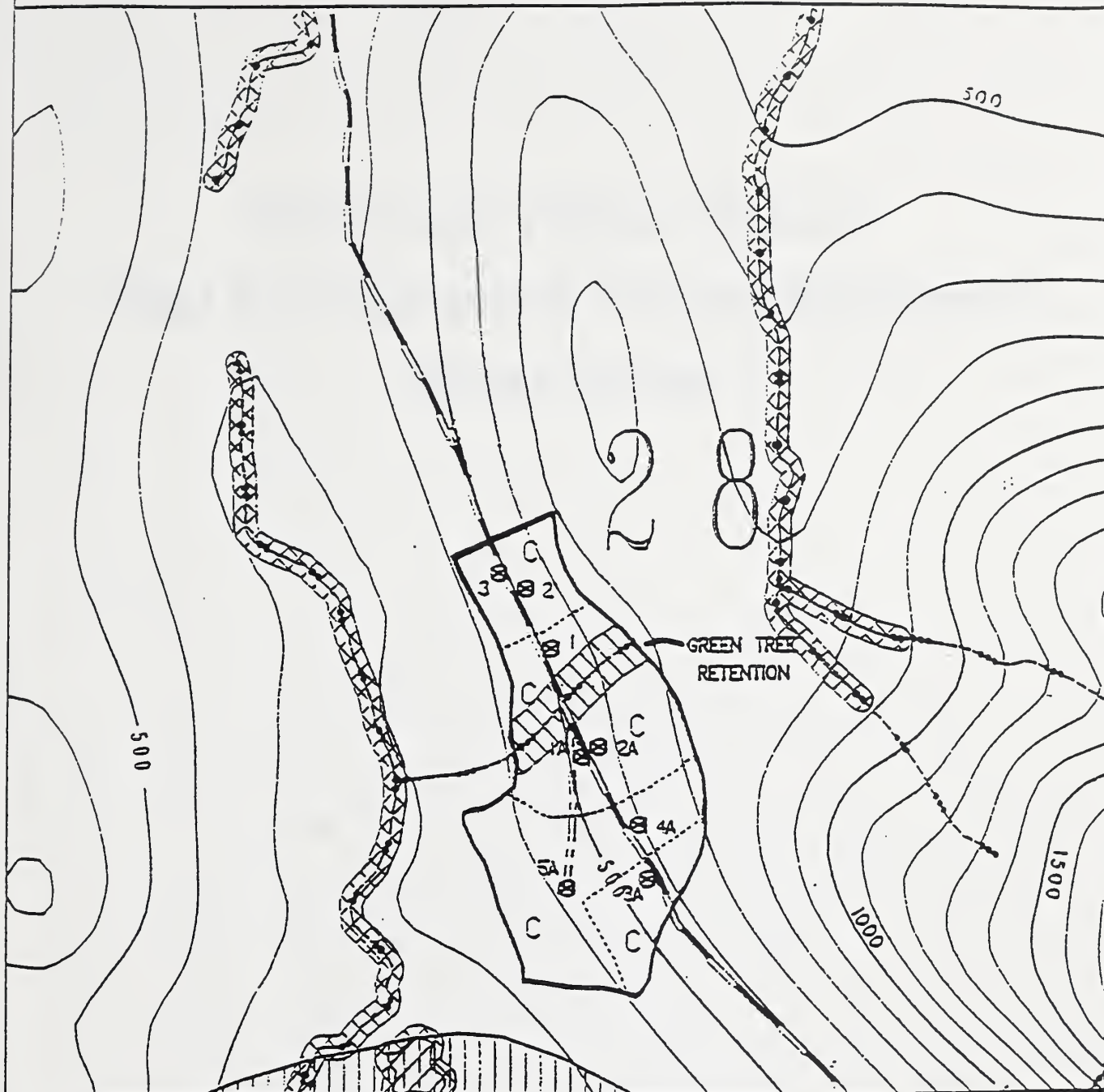
Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

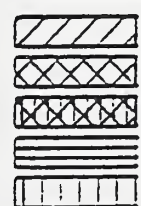
## PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cabled logged to 8 landings. A spur road will be necessary to provide access to Landing 5A.





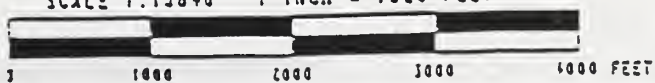
FOREST DEVELOPMENT ROADS  
 TEMPORARY ROADS  
 UNIT BOUNDARY  
 SETTING BOUNDARIES  
 CLASS 1 STREAMS  
 CLASS 2 STREAMS  
 CLASS 3 STREAMS  
 LANDINGS (NUMBERED)



LAKES  
 EXTRA BUFFER FOR STREAMS/LAKES  
 LAKE PROTECTION ZONE (TO 500')  
 NORTH IRISH TIMBER SALE UNITS  
 ELIGIBLE WILD AND SCENIC RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL  
 H = HELICOPTER G = CABLE  
 P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET  
 SCALE 1:15840 1 INCH = 1320 FEET





**Shamrock Timber Sale(s)  
Final Environmental Impact Statement  
Errata Sheet**





The following are changes that have been made to the FEIS due to typographic errors on the tables. The numbers from the analysis (Chapter 4) are correct and have not changed. Only the numbers in these tables were changed to match the analysis.

Table 2-7 (page 2-20)

**Proposed Timber Harvest for Alternative 5 by VCU and Logging Method**

VCU	Estimated Volume (MBF)	Highlead (Acres)	Skyline (Acres)	Shovel (Acres)	Helicopter (Acres)	Total (Acres)
429	20,353	917	170	26	0	1,113
436	11,493	376	30	62	0	468
438	7,332	173	195	0	0	368
<b>Total</b>	<b>39,178</b>	<b>1,466</b>	<b>395</b>	<b>88</b>	<b>0</b>	<b>1,949</b>
Percent of Total		75.2%	20.3%	4.5%	0.00%	100.00%

Table 2-8 (page 2-22, 2-23)

**Shamrock Alternative Summary**

Element of Proposal	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
<b>Area Harvested by Cutting Method:</b>					
Acres proposed for Clearcutting	0	2,492	1,163	1,672	1,799
Acres proposed for Partial Cutting	0	210	13	94	150
<b>Area Harvested by Logging System:</b>					
Acres proposed for Shovel	0	131	87	87	88
Acres proposed for Highlead	0	1,705	837	1,349	1,466
Acres proposed for Skyline	0	524	252	330	395
Acres proposed for Helicopter	0	342	0	0	0
<b>Water Quality/Fish Habitat:</b>					
Road Crossings of Class I and Class II streams	0	36	25	29	30
Road crossings of Class III streams	0	61	32	36	38

The following are changes to the Shamrock Record of Decision Map due to typographic errors.

Unit 20 on the ROD map is Unit 20M.  
Unit 51 on the ROD map is Unit 51M.



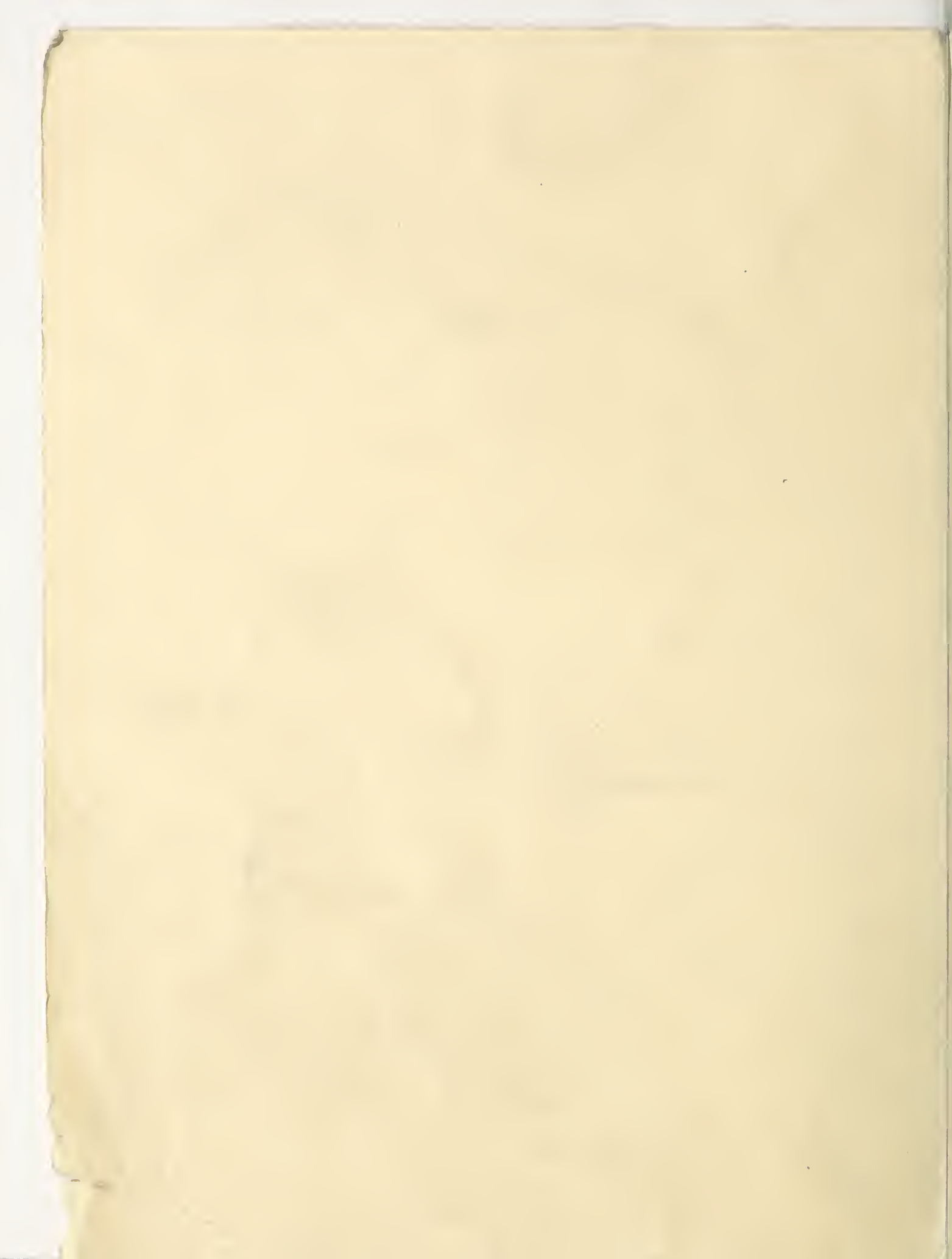




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# Selected Alternatives USDA FOREST SERVICE – ALASKA Shamrock Record Of Decision



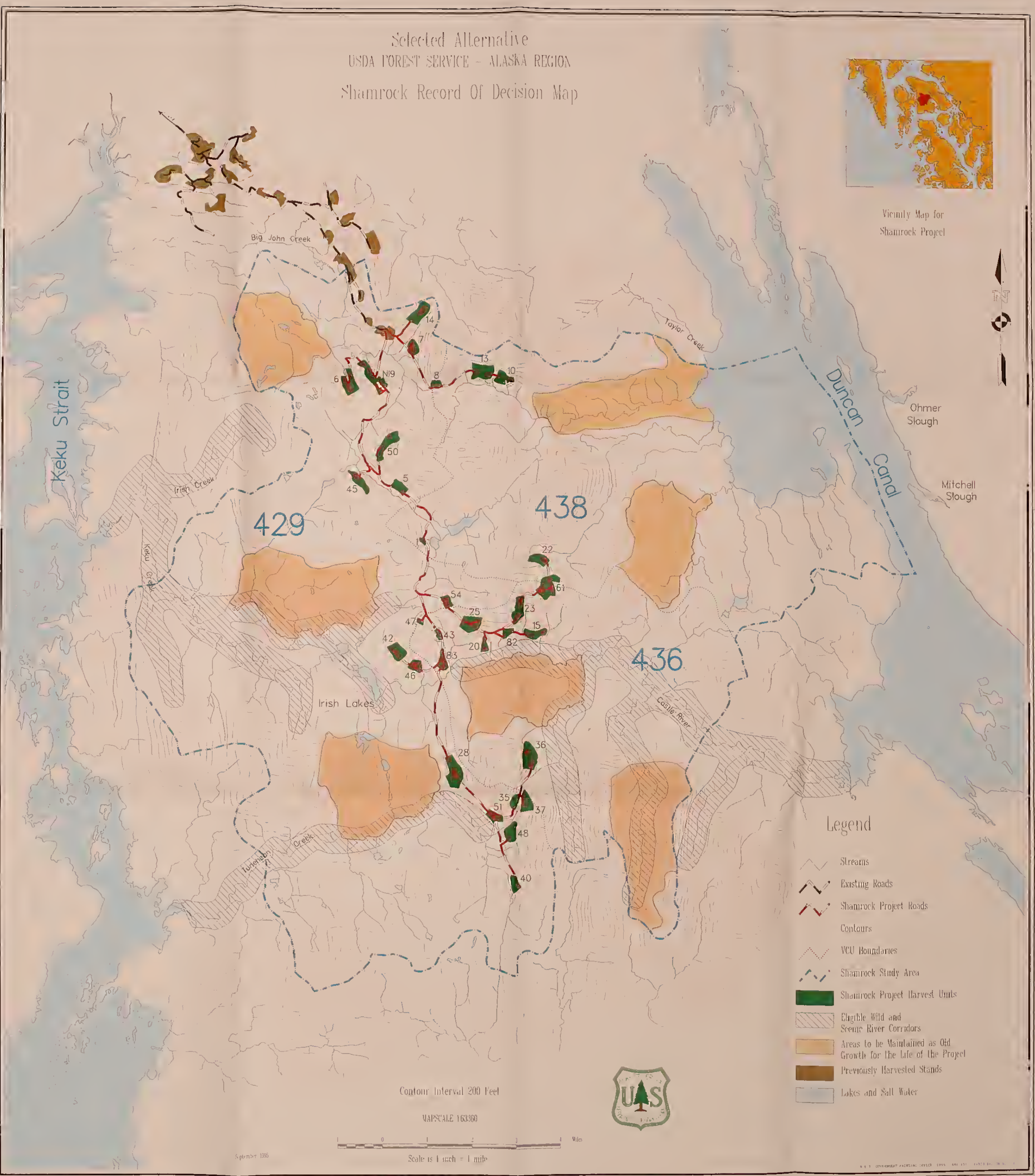




Selected Alternative  
 USDA FOREST SERVICE - ALASKA REGION  
 Shamrock Record Of Decision Map



Vicinity Map for  
 Shamrock Project



Legend

- Streams
- Existing Roads
- Shamrock Project Roads
- Contours
- VCU Boundaries
- Shamrock Study Area
- Shamrock Project Harvest Units
- Eligible Wild and Scenic River Corridors
- Areas to be Maintained as Old Growth for the Life of the Project
- Previously Harvested Stands
- Lakes and Salt Water

Contour Interval 200 Feet

MAP SCALE 1:63,360



Scale is 1 inch = 1 mile



September 1995







1022395804



1022395804

DA Forest Service  
Fairbanks Ranger District  
P.O. Box 1328  
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